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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

CAI, WAYNE HUU

ART UNIT PAPER NUMBER

2681

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/635,938

Applicant(s)

HULL ET AL.

Examiner

Wayne Cai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to Amendment dated 10/05/2005.

Response to Arguments

1. Applicant's arguments filed have been fully considered but they are not persuasive.

The Applicants argue that Kabala fails to teach or suggest a method, in particular comprising "depositing and storing virtual markers that are not specific to the user to indicate associated locations visited by the user in the space." The Applicants, however on page 14 of the Remarks, admit that the cited reference does teach or suggest depositing and storing virtual markers, but each marker is specific to each user.

"depositing and storing virtual markers that are not specific to the user" is interpreted or conceptualized by one skilled in the art as storing virtual markers of any random user, but it could include specific user as desired. The Applicants note that "Kabala discloses a process comprising transmitting a unique ID code of a badge carried by an attendee and forwarding this ID information to track individually each attendee and know precisely where each attendee has gone for how long, to form a list having identity of the attendees, the places of booths visited, the times of the visits, and the durations of the visits." would read on the claimed feature since the Applicants do not specify any particular type of virtual marker of a user needs to be deposited and stored. Therefore, Kabala or one skilled in the art would freely select any virtual marker of any user and/or all users as desired to deposit and store. "not specific to the user" is

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such a broad term and gives freedom to one skilled in the art to deposit and store virtual markers of a particular user as desired but could also deposit and store virtual markers of any user. Hence, previous rejection was proper.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-15, 17-19, 23-25, 26-40, 42-44, and 48-50 are rejected under 35 U.S.C. 102(e) as being anticipated by Kabala (US – 6,539,393 B1).

Regarding claims 1 and 26, Kabala discloses a method and apparatus for providing information about a real-world space, the apparatus comprising:

- a first arrangement arranged to deposit and store virtual markers to indicate associated locations visited by the or each of at least one user in the space, said markers being of more than one type and not specific to a said user (col. 4, lines 52-63);
- a second arrangement comprising a data-processing system arranged to selectively use data about the stored markers of multiple locations and of a specific type or combinations of types to provide an information item

relevant to use of the space, said specific type or combinations of types being selected in dependence on the nature of the information item to be provided (col. 7, lines 46-67).

Regarding claims 2 and 27, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit multiple types of virtual marker in respect of a said user moving through the space (i.e., identity of the attendees, the places of booths visited, the time of the visits, and the durations of the visits) (col. 4, lines 52-67).

Regarding claims 3 and 28, Kabala discloses the method and apparatus according to claims 2 and 27 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit markers upon certain conditions being satisfied, the conditions determining the deposition of markers of one of said multiple types of virtual marker differing from the conditions determining the deposition of markers of another of said multiple types of marker (col. 5, lines 1-67).

Regarding claims 4 and 29, Kabala discloses the method and apparatus according to claims 3 and 28 as described above. Kabala further discloses wherein the first arrangement is arranged to deposit the virtual markers of said one type automatically at one of:

- predetermined intervals of time, predetermined intervals of distance, predetermined locations in said space (col. 5, lines 1-5);
- the first arrangement being further arranged to deposit the virtual markers of said another type at a different one of said predetermined

intervals of time, predetermined intervals of distance, and predetermined locations in said space (col. 5, lines 5-39).

Regarding claims 5 and 30, Kabala discloses the method and apparatus according to claims 2 and 27 as described above. Kabala also discloses wherein the first arrangement is arranged to simultaneously deposit markers of more than one of said multiple types of markers (col. 5, lines 30-39).

Regarding claims 6 and 31, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein for each of at least two said users the first arrangement is arranged to deposit markers in respect of multiple users such that for each of at least some of these users only one type of marker is deposited (i.e., the badge ID of the attendees) with this type being different for each of at least two such users (col. 5, lines 40-67) (i.e., each new badge ID is transmitted to the transceiver to keep track of each attendee.)

Regarding claims 7 and 32, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala further discloses comprising an aggregation arrangement arranged to aggregate by type, and in dependence on their associated locations, the virtual markers deposited in respect of multiple said users, the aggregation arrangement being arranged to carry out this aggregation either when the markers are being stored by the first arrangement or subsequently (fig. 5, and its descriptions); the second arrangement being arranged to use, as said data, data about the aggregated markers of said specific type or combinations of types (col. 7, lines 46-67).

Regarding claims 8 and 33, Kabala discloses the method and apparatus according to claims 7 and 32 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit the markers with initial strength values (col. 4, lines 52-59), the apparatus further comprising a decay arrangement arranged to decay with time the strength values associated with the stored markers, either taken individually before aggregation or in location-dependent aggregations (col. 5, lines 1-22); the data-processing system of the second arrangement being arranged to use, as said data, data about the current strength of the aggregated markers of said specific type or combinations of types (col. 5, lines 22-29).

Regarding claims 9 and 34, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit virtual markers of a first said type with a first strength value and virtual markers of a second said type with a second strength value different from said first value (i.e., each badge ID of each attendee is transmitted to the control processor); the apparatus further comprising an aggregation arrangement arranged to aggregate together the strength values of the deposited virtual markers of said first and second types in dependence on their associated locations, either when being stored or subsequently (col. 5, lines 40-67); the data-processing system of the second arrangement being arranged to use, as said data, data about the aggregated strength values of the markers of said first and second types (col. 5, lines 40-67).

Regarding claims 10 and 35, Kabala discloses the method and apparatus according to claims 9 and 34 as described above. Kabala also discloses the data-

processing system of the second arrangement being arranged to use, as said data, data about the current aggregated strength values of the markers of said first and second types (col. 7, lines 46-67), wherein the apparatus further comprises a decay arrangement arranged to decay with time the strength values associated with the stored markers of said first and second types, either taken individually before aggregation or in location-dependent aggregations (i.e., the signal strength of the attendee is getting weaker as moving away from the transceiver) (col. 5, lines 1-29, and col. 6, lines 1-45).

Regarding claims 11 and 36, Kabala discloses the method and apparatus according to claims 9 and 34 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit markers of said first type in respect of visitors to said space and to deposit markers of said second type in respect of a party with responsibility for the space, said second strength value being greater than said first strength value (i.e., the closer the attendee to the transceiver, the stronger the signal is; hence, the second strength value being greater than the first strength value) (see col. 5, lines 1-29).

Regarding claim 12, and 37, the Examiner also rejects these claims for the same reasons set forth in claims 11 and 36 above because the second strength value is greater than the first strength value is broadly interpreted as the first and second strength values being of opposite to each other.

Regarding claims 13 and 38, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit said virtual markers each with an initial strength

value (col. 5, lines 1-5), the apparatus further comprising a decay arrangement arranged to decay with time the strength values associated with the stored markers, either taken in location-dependent aggregations or individually (col. 5, lines 1-29, and col. 6, lines 1-45); the data-processing system of the second arrangement being arranged to use, as said data, data about the current strength values of the stored markers of said specific type or combinations of types, either taken in aggregation or individually (col. 7, lines 46-67).

Regarding claims 14 and 39, apparatus according to claims 13 and 38 as described above. It is inherent that the first arrangement is so arranged that markers of the same type have the same initial strength (col. 5, lines 1-29), there being at least two marker types with different respective initial strength values because if the attendees are in the same distance away from the transceiver, the strength value must be the same.

Regarding claims 15 and 40, the Examiner rejects these claims for the same reasons set forth in claims 14 and 39.

Regarding claims 17 and 42, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala discloses wherein the first arrangement comprises a mobile device for carrying by the or each user (col. 4, lines 12-31), each mobile device being arranged to deposit said virtual markers in respect of the associated user (col. 4, lines 52-67).

Regarding claims 18 and 43, Kabala discloses the method and apparatus according to claims 17 and 42 as described above. Kabala also discloses wherein the

first arrangement further comprises a central system for storing the virtual markers (col. 3, lines 12-20, and fig. 1, element 110).

Regarding claims 19 and 44, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement comprises an infrastructure system for monitoring the location of the or each user and for depositing and storing virtual markers in respect of the or each user (col. 4, lines 52-67).

Regarding claims 23 and 48, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit a feature-type virtual marker whenever a said user visits a location corresponding to an item of interest (col. 5, lines 40-67), the data-processing system of the second arrangement being arranged to use data on the size of feature-specific aggregations of feature-type markers to provide, as said information item, information about the popularity of the features concerned (col. 9, lines 3-22).

Regarding claims 24 and 49, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala discloses wherein the first arrangement is arranged to deposit a feature-type virtual marker upon determining that a said user is at a location corresponding to a feature of interest in the space and has requested to be presented with a media item concerning that feature (col. 5, lines 40-67), the data-processing system of the second arrangement being arranged to use data on the size of feature-specific aggregations of feature-type markers to provide, as said

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information item, information about the relative popularity of the features concerned (col. 9, lines 3-22).

Regarding claims 25 and 50, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the second arrangement comprises a mobile device for enabling a further user in said space to request and be presented with said information item (col. 6, lines 13-22).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 20, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabala in view of Dempsey (US 2002/0165731 A1).

Regarding claims 20 and 45, Kabala discloses the method and apparatus according to claims 1 and 26 as described above, except for the data-processing system of the second arrangement is arranged to provide, as said information, an image of a virtual landscape defined by the relative strengths of location-dependent aggregations of markers of at least one type mapped to a representation of the space.

In a similar endeavor, Dempsey discloses a system and method for performing object association at a tradeshow using a location tracking system. Dempsey also discloses wherein the data-processing system of the second arrangement is arranged

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to provide, as said information, an image of a virtual landscape defined by the relative strengths of location-dependent aggregations of markers of at least one type mapped to a representation of the space (paragraph 0030).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to display said information to keep track or determine the current location of the users.

6. Claims 21-22, and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabala in view of Chu et al. (hereinafter "Chu") (US 2002/0174021 A1).

Regarding claims 21 and 46, Kabala discloses the method and apparatus according to claims 1 and 26 as described above, except for the data-processing system of the second arrangement is arranged to derive, as said information item, information about a path through the space by determining a path that follows or avoids either ridges or troughs in a virtual landscape defined by the relative strengths of location-dependent aggregations of markers of at least one said type.

In a similar endeavor, Chu discloses a method, system for doing business by optimizing a user's shopping and product acquisition experience. Chu also discloses wherein the data-processing system of the second arrangement is arranged to derive, as said information item, information about a path through the space by determining a path that follows or avoids either ridges or troughs in a virtual landscape defined by the

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relative strengths of location-dependent aggregations of markers of at least one said type (abstract, and paragraph 0028).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a step of deriving information about a path through space to keep the traffic flows more efficient in the facility.

Regarding claims 22 and 47, Kabala discloses the method and apparatus according to claims 1 and 26 as described above, except for the data-processing system of the second arrangement is arranged to derive, as said information item, information about a path through the space by determining a path that follows tour-type markers that have been deposited in respect of a user who has responsibility for setting routes through the space.

In a similar endeavor, Chu discloses a method, system for doing business by optimizing a user's shopping and product acquisition experience. Chu also discloses wherein the data-processing system of the second arrangement is arranged to derive, as said information item, information about a path through the space by determining a path that follows tour-type markers that have been deposited in respect of a user who has responsibility for setting routes through the space (paragraphs 0034-0040).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the step of deriving information about a path to calculate and optimize the path.

7. Claims 16, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kabala in view of Chu, and in further view of Dempsey.

Regarding claims 16 and 41, Kabala discloses the method and apparatus according to claims 1 and 26 as described above. Kabala also discloses wherein the first arrangement is arranged to deposit virtual markers of at least one of the following types:

- normal markers arranged to be deposited at predetermined intervals of time or distance (col. 4, lines 52-67);

Kabala, however, fails to disclose:

- feature markers arranged to be deposited at features of interest in said space;
- tour markers arranged to be deposited in respect of a user who has responsibility for setting routes through the space;
- group markers arranged to be deposited in respect of users who are members of a predetermined group of users.

In a similar endeavor, Chu discloses a method, system for doing business by optimizing a user's shopping and product acquisition experience. Chu also discloses:

- feature markers arranged to be deposited at features of interest in said space (paragraphs 0034-0040);
- tour markers arranged to be deposited in respect of a user who has responsibility for setting routes through the space (paragraphs 0034-0040);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include feature markers to deposit the user's interest or preferences.

Furthermore, in a similar endeavor, Dempsey discloses a system and method for performing object association at a tradeshow using a location tracking system.

Dempsey also discloses:

- group markers arranged to be deposited in respect of users who are members of a predetermined group of users (paragraphs 0033, and fig. 6);

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the group markers to determine and/or organize a group of users who has the same interests or associations.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of


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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday-Friday; 9:00-6:00; alternating Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Wayne Cai
Examiner
Art Unit 2681



ERIKA A. GARY
PRIMARY EXAMINER